

## Bellwork

Convert from Radical Form to Rational Exponent Form:

$$1. \sqrt{x^3y} = (x^3y)^{1/2}$$

$$2. \sqrt[5]{14x} = (14x)^{1/5}$$

$$3. \sqrt[3]{(10x^4)^2} = (10x^4)^{2/3}$$

## General Properties

$$a^{\frac{m}{n}} = \sqrt[n]{a^m}$$

$$(a^c b^d)^{\frac{m}{n}} = \sqrt[n]{(a^c b^d)^m}$$

## Examples

Convert from Rational Exponents to Radical Form:

1.  $(3xy^3)^{-2/5}$

$$\frac{1}{\sqrt[5]{(3xy^3)^2}}$$

2.  $10^{2/3}$

$$\sqrt[3]{10^2} = \left(\sqrt[3]{10}\right)^2$$

$$= \sqrt[3]{10^2}$$

## Examples

Convert from Rational Exponents to Radical Form:

$$3. (14x^3)^{0.5} = (14x^3)^{\frac{1}{2}}$$

$$\sqrt{(14x^3)}$$

$$4. -3(31xy^4)^{-3/2}$$

$$\frac{-3}{\sqrt{(31xy^4)^3}}$$